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WASTE MANAGEMENT PLAN FOR BUILDING 123

REVISION 1

March 1998

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TABLE OF CONTENTS

TABLES

ACRONYMS

ACM	Asbestos-containing material
CA	Contaminated Area
CDPH&E	Colorado Department of Public Health and the Environment
D&D	Decontamination and Demolition
DCI	DynCorp, Inc
DOE	U S Department of Energy
DOT	Department of Transportation
EPA	U S Department of Environmental Protection Agency
ER	Environmental Restoration
ft^3	cubic foot
IDC	Item Description Code
IHSS	Individual Hazardous Substance Site
IWCP	Integrated Work Control Package
LLW	Low-Level Waste
LL/LLM	Low-Level/Low-Level Mixed
NTS	Nevada Test Site
OSHA	Occupational Safety and Health Agency
PCB	Polychlorinated biphenyl
PU&D	Property Utilization and Disposal
RBA	Radiological Buffer Area
RCT	Radiation Control Technician
RFETS	Rocky Flats Environmental Technology Site
RMRS	Rocky Mountain Remediation Services, L L C
TSCA	Toxic Substance Control Act
WAC	Waste Acceptance Criteria
WFC	Waste Form Code
WMP	Waste Management Plan
WSRIC	Waste Stream Residue Identification and Characterization
yd^3	cubic yard

WASTE MANAGEMENT PLAN FOR BUILDING 123

1.0 INTRODUCTION

Decontamination, dismantlement, and demolition of Rocky Flats Environmental Technology Site (RFETS) facilities generate a variety of solid and liquid wastes The waste may be designated as radioactive, mixed, hazardous, non-hazardous or asbestos waste and must be managed in accordance with State and Federal regulations

Building 123 was one of the first 10 buildings constructed at Rocky Flats The building provided an analytical laboratory, dosimetry and instrument calibration facility since its construction in 1953 B123 also provided office space for radiation health specialists, storage for all radiological health records, a laboratory for calibration and repair of criticality alarms and other repair/calibration shops B123 once housed medical research until such operations were relocated to Building 122

1 1 PURPOSE

The purpose of this document is to describe the waste management program that addresses waste management requirements for the decontamination and decommissioning of Building 123

The technical basis for development of the Waste Management Plan (WMP) is outlined in the U S Department of Energy, *Office of Environmental Management Decommissioning Resource Manual*, dated August 1995, and the Draft *Decommissioning Program Plan*

1.2 SCOPE

The scope of this project includes the complete removal of all internal process waste piping, process hoods and ductwork, laboratory cabinets, radiologically contaminated materials, polychlorinated biphenyl (PCBs), and all asbestos containing materials from Buildings 123 Buildings 113, 114, 123 and 123S will be demolished and materials removed down to the base slab If sampling underneath the slab finds contamination present, the building slab and foundation will be removed as required to remediate the contamination Remediation of the soil around Building 123, and possible underground contamination will be done according to RMRS Environmental Restoration (ER) procedures These remediation activities will also generate low-level radioactive waste (LLW) in the form of soil, piping, and debris Some hazardous or mixed waste may also be present During building demolition this project will generate asbestos and low-level waste Hazardous and mixed waste will also be generated Hazardous chemicals and laboratory equipment will be removed during the building deactivation phase Process waste lines may have low levels of internal contamination caused by processing bioassay and environmental samples Localized areas of contamination within the building may be isolated and decontaminated, to limit the amount of low-level and hazardous waste that is generated Projected volumes and types of waste to be generated are discussed below They are based upon preliminary planning, reconnaissance characterization activities, and actual waste generated during the decommissioning of Building 123 at the time this document was revised

There will also be a large quantity of asbestos contaminated waste Asbestos removal will be subcontracted to a commercial vendor who is licensed to remove and handle this type of waste Transportation and disposal of non-contaminated asbestos waste will be handled by the subcontractor, working with the Rocky Mountain Remediation Services, L L C (RMRS) Waste Disposal Group and DynCorp, Inc (DCI) Traffic Management They will make certain that the waste goes to a site that is licensed for asbestos disposal, that is also approved to accept waste from Rocky Flats The processing, packaging, storage, and transportation of industrial waste and the asbestos waste will be handled by subcontractors with direct oversight of Waste Operations RMRS Waste Disposal and DCI Traffic Management personnel will also oversee these operations Offsite transportation shall comply within Department of Transportation (DOT) regulations Low-level (LL) radioactive waste, mixed wastes, and asbestos contaminated with low-level radioactivity will be certified the Kaiser-Hill Waste Certification group

In the event a waste stream, not identified in this summary, is generated by this project and this waste stream has the potential of impacting human health or the environment, then RMRS or its subcontractor is required to immediately notify Kaiser-Hill's Environmental Management and Compliance Division of the existence of this waste stream Jointly RMRS and Kaiser-Hill will determine the most appropriate management and disposal options for this waste stream

2.0 RESPONSIBILITIES/POINTS OF CONTACT

This section of the WMP presents an overview of the project organization These individuals are the main points of contact for various project activities Key waste management personnel from within the project and other waste management contacts for the project, and a description of their waste management responsibilities is presented below

2.1 PROJECT MANAGER

The Project Manager is responsible for management of the project including overall responsibility for the waste generated by the project These responsibilities include assuring adequate and timely characterization of the waste and the projection of the quantity of waste expected In addition, the Project Manager should ensure that required plans are in place to handle the types of waste to be generated, see that a cost estimate is made and that funds are available to dispose of the waste, and oversee and coordinate all project-specific waste management issues, including preparation of the WMP and assuring its implementation Project personnel will also decontaminate and size reduce the waste when it is prudent do so The Project Manager coordinates activities with the Waste Management Liaison, Project Engineer, and Demolition Manager to ensure that issues associated with waste generation are addressed, including proper characterization, packaging, meeting appropriate RMRS waste acceptance criteria, and filling out relevant paperwork, such as travelers, Waste and Environmental Management System updates, etc It is the responsibility of the project to ensure that waste is identified, properly documented, segregated, packaged, and prepared for storage or shipment Waste Operations then receives the waste for onsite storage, or oversees offsite shipment

D&D project personnel assigned to the project will provide

- Waste generation, segregation, decontamination and size reduction,
- Technical support regarding waste generation, packaging and characterization, and
- Review of Integrated Work Control Packages (IWCPs) for waste management actions

2.2 WASTE MANAGEMENT - ENVIRONMENTAL COORDINATOR (EC)

This individual is assigned to the Decontamination & Decommissioning (D&D) Construction Management group He assists D&D projects with all aspects of waste management For this project, he will assume the duties of the Environmental Coordinator when building decommissioning begins This includes coordinating with the Waste Management Liaison to handle environmental compliance and waste management issues, and interfacing with waste management personnel to schedule and complete waste management activities in a timely manner and ensure compliance with all relevant requirements

The Waste Management Coordinator arranges for waste packages for low-level, hazardous, or mixed waste, and schedules technicians and certification personnel, as needed, to package and prepare waste for receipt by Waste Management

2.3 WASTE MANAGEMENT - LIAISON

The Waste Management Liaison coordinates with the Project Manager and is responsible for coordination of waste management activities across organizational lines Some of the groups that may become involved include Radiological Engineering, the Waste Operations group for handling, storage and disposal, Traffic Management, the Waste Management Environmental Coordinator, and other groups such as Nuclear Safety which may assist with waste management activities This individual will assist the Waste Management Coordinator as needed, providing access to waste management personnel across organizational lines This individual is the contact point for all waste management activities He coordinates onsite transfers, and oversees subcontractor operations that deal with the loading of shipments for offsite disposal He works with Traffic Management to prepare the Bills of Lading or the U S Department of Environmental Protection Agency (EPA) Uniform Hazardous Waste Manifests as needed, and coordinate all shipments with Traffic Management

2.4 WASTE OPERATIONS SUPPORT

Waste Operations provides services to the RFETS, including receipt of waste and other materials from the project, disposal and recycle as available, and storage of waste Waste Characterization will be done by personnel assigned to the project Waste Operations will oversee the transportation of waste both onsite and offsite Industrial waste shipments, and asbestos will be handled by subcontractors Waste Operations will coordinate offsite shipments and ensure that the waste is sent to an approved disposal site They will store radioactive waste, unless arrangements are made to ship the directly to a disposal site If waste is shipped directly offsite, they will provide oversight and coordination of all shipments

2 4 1 Solid Waste Operations

Solid Waste Operations can provide the following services and support for the project

- Receipt of radioactive waste that complies with RMRS Waste Acceptance Criteria (WAC),
- Technical support regarding waste generation, packaging, and characterization,
- Low-Level/Low-Level Mixed (LL/LLM) guidance through established programs,
- Storage of waste, and
- Review of IWCPs for waste management actions

2 4 2 Waste Disposal Projects

Waste Disposal Projects is responsible for

- Offsite shipment of project wastes and materials for disposal, and recycling,
- Preparing waste for offsite shipment,
- Maintaining arrangements with offsite facilities for receipt of RFETS waste, and
- Scheduling waste disposal activities as necessary to support project requirements

2.4 3 Waste Certification Oversight (Kaiser-Hill)

Waste Certification Oversight is responsible for

- waste certification of radioactive waste for shipment purposes

2 5 TRAFFIC MANAGER (DCI Traffic Management)

Waste transfer onsite and offsite will be accomplished with the assistance of a Traffic Management representative This individual will coordinate the onsite transfer and offsite shipping of waste Traffic Management works with the Waste Management Coordinator, Construction Superintendent, Waste Management Liaison, and the Environmental Coordinator (EC) to ensure that waste packages are transported in a timely manner to the appropriate treatment, storage, or disposal location A large portion of the waste is expected to be shipped directly offsite for disposal Traffic Management is responsible to see that waste packages meet the requirements of the Department of Transportation (DOT) (49 CFR) for shipping of waste offsite This group is also prepares the Bills of Lading or EPA Uniform Hazardous Waste Manifests for the waste shipments

2.6 RADIOLOGICAL ENGINEER

Radiological Engineering is responsible for all radiological surveys, release of equipment or materials to Property Utilization and Disposal (PU&D) or for offsite disposal, radiological health & safety, and other miscellaneous activities associated with the radiological aspects of D&D Radiation Control Technicians (RCTs) working under the direction of Radiological Engineering will perform surveys and assay equipment and materials No equipment or building materials, including building rubble, will be allowed to leave Building 123 without receiving proper release from this group

2 7 CHARACTERIZATION SPECIALIST

This individual is responsible for conducting the Reconnaissance Characterization, and directs all sampling and analysis of building areas for both radiological and hazardous materials identification She works together with Radiological Engineering to develop the survey plans In the same way, they will work with environmental specialists to develop sampling and analysis plans for the IHSS areas, and as appropriate, sampling strategies for determining hazards within the building (asbestos, lead, PCBs, beryllium, and other potential hazardous materials) The Characterization Specialist is responsible for generating a Reconnaissance Characterization Report, Sampling & Analysis plans, and other sampling strategies as needed, and the Final Characterization Report for the project

3.0 WASTE GENERATION

This section of the WMP provides a detailed description of the wastes and excess materials that are expected to be generated by the Building 123 Decommissioning Project The D&D Waste Stream Residue Identification and Characterization Book (WSRIC), process knowledge and reconnaissance characterization have been used to identify these wastes and excess materials The D&D WSRIC can be referenced to obtain characterization information and a description of the methods for waste segregation based on Item Description Codes (IDCs) or Waste Form Codes (WFCs) This information is required to properly characterize and prepare radioactive or hazardous waste for packaging and certification Characterization and sampling requirements are defined in the Building 123 Reconnaissance Level Characterization Report, the Characterization Plan and related IWCPs The Building 123 WSRIC will be revised to include Process 25 information which will reference the Building 123 D&D waste generation

Waste will be generated during each of the following phases of the project (1) Building Strip-out, (2) Asbestos Abatement, (3) Demolition, and (4) Remediation of the Individual Hazardous Substance Sites (IHSS) All types of waste will follow a similar process flow for disposition After waste is generated, it must be identified and classified using established methods and documentation Whenever possible, it is segregated for reuse or recycle The waste is then prepared for packaging This may include size reduction, consolidation, and bagging Project personnel will accomplish these activities, and prepare the required documentation Radioactive waste must be certified and packaged by trained personnel It must conform with the particular RMRS waste acceptance criteria, depending on its classification After the waste is packaged, the project delivers the waste to Waste Operations for storage or offsite disposal Non-radioactive, non-hazardous waste may be taken directly offsite and handled by a subcontractor, however, Waste Management personnel will oversee their activities Final documentation must be prepared before shipments leave the Building 123 area They may include a radiological release, manifests, and Bills of Lading Waste Management will locate the waste in a storage area and arrange for offsite shipment. The following sections describe the types of waste and how they will be handled for each phase of the project

3 1 BUILDING STRIP-OUT

Activities during this phase will include the removal of any leftover equipment, radiological contamination (including floor tile and interior walls), and strip-out of recyclable materials Process waste lines, hoods and ducting, scrubber systems, and similar types of support systems will be removed Potential types of waste that will be generated during strip-out include low-level, hazardous, industrial, PCB waste, asbestos, low-level asbestos, and low-level mixed waste Handling of each these waste streams is discussed below Handling of asbestos and low-level asbestos waste is discussed in Section 3 2

Low-level waste and low-level mixed waste will be handled by qualified, waste packaging technicians The technicians will work with decontamination personnel and radiation monitors to identify and segregate the low-level waste Drums or boxes will be provided by the Waste Disposal group The technicians will package and label the waste, and arrange for it to be certified by the Kaiser-Hill Waste Certification group Working with the certification personnel, the Waste Management Environmental Coordinator will prepare all required documentation The drums or boxes will then be turned over to Waste Operations for storage and disposal

Hazardous waste will be handled in much the same manner, except it will not be necessary to certify the waste It must be properly packaged in drums, labeled, and the required documentation generated This will be done by the Waste Management Environmental Coordinator The drums or boxes will then be turned over to Waste Operations for storage and disposal Any items or debris containing hazardous material must be handled as hazardous waste

Industrial waste will be generated from building debris and leftover materials It will include any items or debris that will not be accepted by PU&D for recycling PU&D will take much of the equipment, and certain metallic items such as copper wire or lead that can be recycled Industrial waste will be sent to the USA Waste Landfill in Erie, Colorado During this phase of the project, any waste destined for a landfill will be handled by the Waste Disposal group Appropriate documentation will be generated by the Project Waste Coordinator and Traffic Management

3 2 ASBESTOS ABATEMENT

Asbestos abatement will occur either concurrently or immediately following strip-out activities During this phase of the project, asbestos containing materials will be removed from the building Asbestos waste and low-level asbestos waste will be generated RCTs will survey the materials before they are removed from the building The asbestos to be removed includes floor tile and mastic, wall board, drywall mud and tape, cementitious cabinet linings, loose fill insulation in the concrete block, laboratory counter top mastic, doors, pipe insulation, and plastic and gloves used during abatement This waste will include plastic sheeting, gloves, tyvex suits and other materials that are exposed to the asbestos during abatement Some building rubble will also be accumulated as non-asbestos containing materials are removed to gain access to the asbestos This rubble will be classified and handled appropriately

The asbestos waste must be handled by qualified asbestos workers It will be double bagged and placed in containers for shipment to an authorized landfill The subcontractor will label the containers with asbestos warning labels and other required packaging labels If radiation is detected, the asbestos that is contaminated will be classified as low-level asbestos waste In addition, it was determined that asbestos containing, interior walls should be handled as low-level asbestos waste due to radiological contamination concerns and high costs for decontamination and final radiological surveys

Project personnel will ensure that the waste is properly packaged, labeled, and that manifests and a Bill of Lading are prepared EPA Uniform Hazardous Waste Manifests and the Bills of Lading will be prepared by Traffic Management The Waste Disposal group and Traffic Management will coordinate shipment of the waste offsite

When radioactive asbestos containing waste is generated and then qualified, waste packaging technicians assigned through the project will be called upon to take the waste from the subcontractor Drums or boxes will be provided by the Waste Disposal group The technicians will manage packaging and labeling of the waste, and arrange for it to be certified by the Kaiser-Hill Waste Certification group Working with the certification personnel, the Project Waste Coordinator will prepare all required documentation The drums or boxes will then be turned over to Waste Operations for storage and disposal

3.3 DEMOLITION

Waste generated during demolition will consist of all of the remains of the building including exterior and concrete walls, roof and windows Prior to demolition and after completion of all strip-out and asbestos abatement activities, the building will undergo Final Radiological Surveys to verify all radiological contamination has been removed All waste generated during demolition will be industrial waste This waste will be loaded in roll-off boxes or dump trucks in preparation for offsite shipping It must meet the criteria for shipment to an approved offsite landfill The Waste Coordinator will ensure that the demolition subcontractor complies with all requirements for offsite shipments, and he will obtain radiological release from Radiological Engineering The subcontractor will follow procedures as described in *Sanitary Waste Offsite Disposal,* 1-PRO-573-SWODP, 1997 The subcontractor will load and ship the waste, under the guidance of Waste Operations Waste Operations will coordinate with Traffic Management to prepare the Bills of Lading

Should any hazardous waste be discovered during the demolition activities, trained waste technicians from the site will be used to characterize, package, and handle this waste as detailed above

3.4 REMEDIATION OF IHSS

Remediation of the IHSS will be performed by RMRS Environmental Remediation At this stage of the project, the building will have been removed from its foundation, demolished, and the industrial waste shipped offsite A sampling plan has been written to characterize the slab and waste under the slab The results of the sampling will provide general information on the contamination in the soil Depending upon the results of the initial sampling, more detailed characterization may be conducted and a remediation plan prepared If underground contamination, radioactive or hazardous, is discovered, the remediation of the site will produce low-level, hazardous, or mixed wastes Depending upon the extent of the contamination, and the options pursued, it is expected that contaminated soil and pipelines would be the major source of waste Plastic, tools, personal protective equipment, and other materials associated with remediation would also be generated Contaminated waste will be handled by qualified, waste packaging technicians who will work with decontamination personnel and radiation monitors to identify and segregate the hazardous or low-level waste Results from sampling, and radiation surveys will be used to guide this work Drums or boxes will be provided by the Waste Disposal group The technicians will package and label the waste, and arrange for radioactive waste to be certified by the Kaiser-Hill Waste Certification group Working with the certification personnel, the Waste Management Environmental Coordinator will prepare all required documentation The drums or boxes will then be turned over to Waste Operations for storage and disposal

4.0 WASTE TYPES

This section provides information of the various classifications of waste and materials expected to be generated by the project (All of the PU&D excess materials are expected to be removed from the building prior to beginning strip-out Recyclable metals and miscellaneous items have been shipped to PU&D throughout strip-out and asbestos abatement phases) They have been included for informational purposes only This information is based upon the Reconnaissance Level Characterization and interviews with current and prior building occupants

4.1 LOW-LEVEL WASTE

Low-level waste is waste that contains radioactivity and is not classified a high-level waste, transuranic waste, spent nuclear fuel, or 11e(2) byproduct material as defined by DOE Order 5820 2A, *Radioactive Waste Management* Historical information suggests that all of the radioactive waste produced as a result of Building 123 decommissioning activities will be low-level in nature Low-level waste will be generated and managed in compliance with the RMRS WAC and the RFETS Low-Level Waste Management Plan LLW that results from decommissioning activities will be stored onsite or, where feasible, shipped directly to an approved offsite disposal or recycle facility

4 2 HAZARDOUS WASTE/MIXED WASTE

A hazardous waste is defined as waste that exhibits the characteristics of corrosivity, ignitability, reactivity, or toxicity or that is listed in 6 CCR 1007-3, Section 261, Subpart D (Hazardous waste that has been mixed with radioactive waste) All chemicals used in the building are described in the Building 123 WSRIC book Hazardous chemicals were disposed of in Satellite Accumulation Areas, and as a result, discovery of hazardous chemical waste is unlikely If found, hazardous waste will be managed in compliance with the *Hazardous Waste Requirements*

Manual, *RFETS Low-Level Waste Management Plan*, and *Non-Radioactive Waste Packaging*, 1-E-88-WP-1027-NON-RAD

Waste generated during deactivation and strip-out activities, such as equipment, chemicals, and process systems are anticipated to address the bulk of the hazardous waste residing in Building 123 All of the process waste piping (aboveground) and ancillary equipment will be handled as mixed waste Mixed or hazardous waste that results from decommissioning activities will be stored in permitted areas onsite or, where feasible, shipped directly to an approved offsite disposal or recycle facility All rinsate generated during RCRA closure activities will be disposed of as mixed or hazardous waste at Building 374

4 3 INDUSTRIAL WASTE

Industrial waste is, for the purpose of this project, defined as that waste which meets industrial landfill requirements Industrial waste is waste that is not hazardous, does not contain asbestos or PCBs, and is not radiologically contaminated Industrial waste will not be restricted for disposal by the Land Disposal Restrictions This waste will be managed in accordance with all applicable rules and regulations It is anticipated that the resultant rubble will be loaded into roll-offs and shipped to an offsite landfill The subcontractor will follow procedures as described in *Sanitary Waste Offsite Disposal*, 1-PRO-573-SWODP, 1997 These procedures will describe the methods for preparing and shipping the waste They also include the prohibited items It will be the responsibility of the subcontractor, with monitoring by the Waste Coordinator, to conform with this procedure The subcontractor will also provide safe transportation of the rubble and waste to the landfill The DCI Traffic Management will prepare the Bills of Lading for the shipments Waste Disposal personnel will coordinate these shipments

4.4 TOXIC SUBSTANCE CONTROL ACT (TSCA) WASTE

Non-radioactive contaminated PCB waste may be produced from the removal of light fixtures This waste will be handled and packaged in compliance with 1-10000-EWQA, *TSCA Management Plan* The Subcontractor will package the waste and onsite Transportation will transfer it to an RMRS storage area The Waste Disposal group will then be responsible for coordinating offsite shipment and disposal

4 5 ASBESTOS WASTE

Four types of asbestos containing wastes will be generated during the decommissioning of Building 123

(1) Non-radiologically contaminated, friable Asbestos-containing material (ACM),

(2) Non-radiologically contaminated, non-friable ACM,

(3) Radiologically contaminated, friable ACM, and

(4) Radiologically contaminated, non-friable ACM

Asbestos containing materials will be handled in accordance with the Colorado Department of Public Health and Environment (CDPH&E), Occupational Safety and Health Agency (OSHA), TSCA requirements and applicable RFETS requirements Asbestos waste will be packaged in compliance with 1-10000-TRM-WP-2401, *Asbestos Waste Management* RMRS Construction Management will oversee the abatement contractor activities Radiological Engineering is expected to determine whether any of the asbestos will be disposed of as low-level waste If so, Radiation Worker Training will be required for the asbestos workers Packages will be provided by the site, and loading of the packages will be supervised by Waste Operations personnel The low-level asbestos will then be turned over to RMRS Waste Disposal The subcontractor will label packages with asbestos warning labels The subcontractor will comply with all other packaging and shipping requirements The offsite contractor performing the abatement work will be responsible for packaging and preparing the asbestos waste for shipment Traffic Management will issue the Bills of Lading or EPA Uniform Hazardous Waste Manifests, and the offsite contractor will deliver the waste to an approved disposal site The subcontractor should use the approved offsite disposal company or make certain that any disposal site that is used receives approval from the U S Department of Energy (DOE) and the site

4 6 PROPERTY UTILIZATION AND DISPOSAL MATERIALS

PU&D materials, as defined in this WMP, are those materials that have historically been accepted for storage and reuse by PU&D These materials include, but are not limited to, office equipment such as desks, chairs, tables, carts, and bookshelves, which are located in non-contaminated areas or have been located in contaminated areas but confirmed as non-contaminated through radiological survey The estimated volume of materials designated for PU&D is 15,800 ft^3 These materials will be sent to PU&D Table 4-6 shows the estimated generation volumes incorporated in Building 123

Table 4-6 Summary of Waste Management

BUILDING 123 D&D PROJECT

Estimated generation volumes incorporated into Building 123's Waste Management Plan (June 1997 may differ from those volumes used in this Summary Variations are due to completion of additional characterization and selection of waste management operations

Waste Stream	Packaging and Onsite Storage	Final Disposition	Estimated Generated Volume
ASBESTOS NON-RAD Friable (PPE, TSI in non-RMMA rooms, wood & metal in containment, loose insulation in block walls) Non-friable (Doors, counter tops, cabinet linings)	Gray 55-gallon drums or strong tight boxes, friable 6 mm plastic double bagged, crate, roll-off, B666 or outside	Friable, Kettleman Hills through Chem Waste Contract Non-friable, U S A Waste, Erie, CO	Friable 120 yd^3 Non-friable 90 yd^3
ASBESTOS RAD Friable (Drywall, TSI in RMMA rooms) Non-friable (Floor tile, transite)	White 55-gallon drums or boxes, 6 mm plastic double bagged or strong tight boxes/crates, B664 or B644 Cargo Containers	Nevada Test Site (NTS)	Friable 170 yd^3 Non-friable 130 yd^3
PCBs NON-RAD ballasts non-leaking	Black and yellow drum with a plastic liner Building 666	Chem Waste Contract to Rollins, Inc at Deerpark, TX	< 1 yd^3 This sum is a total of all PCB categories Until the ballasts are removed, it is impossible to categorize this waste stream correctly
PCBs NON-RAD leaking ballasts and all other regulated PCBs (articles, etc)	Black and yellow drum with plastic liner, document on traveler if TSCA regulated Building 666	Chem Waste Contract to Rollins, Inc at Deerpark, TX	Totaled in PCB Non-Rad category
PCBs RAD ballasts, non-leaking (LLW only, not TSCA regulated)	White drum with a plastic liner Building 666	Oak Ridge	Totaled in PCB Rad category
PCBs RAD Leaking ballasts and all other rad contaminated (LLW) and TSCA regulated wastes	White drum with a plastic liner Building 666	Oak Ridge	Totaled in PCB Rad category

Waste Stream	Packaging and Onsite Storage	Final Disposition	Estimated Generated Volume
Hazardous Waste NON-RAD fluorescent tubes, solvents, paints, lead, chemicals, metals	Black and white drum tubes crushed onsite 123S or RCRA Unit 1	Chem Waste Contract	< 1 yd^3
Hazardous waste rinsate (RAD and NON-RAD) This waste stream will be generated during RCRA closure of part of RCRA Unit 40	Process waste system	Managed onsite in a wastewater treatment unit (Building 374)	7,500 gallons
Mixed Wastes RAD Non-homogeneous Homogeneous	White 55-gallon drum 904A or Unit 14 or Unit 15A in Building 906	Non-homogeneous LLMW does not have a designated disposal site at this time Homogeneous Oak Ridge LLM and LL solvents Envirocare, UT	Homogeneous 9 yd^3 Non-homogeneous <1yd^3
Low-Level Waste plaster, wall materials, windows, panels, cement, etc	White drum or white boxes 1/2 of full size wooden crates complying with Work Order 1100 or Work Order 4034 B664 Cargo Containers or B440 Cargo Containers	Nevada Test Site	375 yd^3
Sanitary or Industrial Waste NON-RAD	Roll-offs either 20 or 30 yard roll-offs	U S A Waste Erie, CO	3500 yd^3
PU&D materials and processed RCRA Scrap Metal destined for reclamation NON-RAD	Not regulated under RCRA (file systems, cabinets, shelves, desks, fumes hoods, muffler furnaces, lab benches, etc) Lead acid batteries, lead counter weights	PU&D Recycle Gahagen Metal & Iron Denver, CO Lead Gopher Resources Egan, MN	500 yd^3

Waste Stream	Packaging and Onsite Storage	Final Disposition	Estimated Generated Volume
Process RCRA Scrap Metal destined for reclamation RAD	White box and/or container	No contract yet in place Options include SEG and MSC No shipments will be made until a contract is in place with a K-H approved vendor	< 1 yd^3

5.0 WASTE CERTIFICATION

Waste Certification activities will be conducted by trained personnel assigned to the project Waste Characterization data and packaging requirements for low-level wastes will meet the requirements of the Nevada Test Site's Waste Acceptance Criteria (NTSWAC, RO 9/96) Procedures and policies for managing low-level wastes are outlined in the RFETS Low-Level Waste Management Plan (44-RWP/EWQA-0014, Rev 1, 1996) All radioactive waste must be certified prior to transfer to Waste Operations

Release of non-hazardous material, debris, and equipment from a site contaminated with hazardous materials is accomplished by demonstrating that the materials or wastes do not exhibit any of the characteristics of hazardous waste as identified in Subpart C of 6 CCR 1007-3 SS261 or from Subpart D Process knowledge and operating history related to the facilities can also be used to segregate hazardous contaminant areas from unaffected areas

Building 123 WSRIC books was used as a part of the certification process The Building 123 WSRIC book describes each waste stream resulting from processes that were performed in the building Processes are described, chemicals used in the process are identified, and resulting wastes IDCs or WFCs are characterized in the Building 123 WSRIC book This book provides guidance for characterizing and disposing of waste during the deactivation phase of the project

The D&D WSRIC book is used to assist with waste characterization during D&D activities in Building 123 This book will describe the waste streams and provide characterization information to provide guidance for project personnel to segregate, package, and prepare the waste for receipt by Waste Disposal or for offsite shipment

6.0 WASTE PACKAGING

LLW and LLM wastes generated by the project will be sorted at the time of removal The waste will then be packaged and staged for further decontamination, survey, recycle, processing or packaging Small quantities of LLW will be packaged in 55-gallon drums Waste boxes will be used for packaging LLW Waste Operations, in conjunction with the project, will designate the storage location for the LLW It is expected that the majority of LLW will initially be transferred to an approved onsite storage at the site and will eventually be shipped to an offsite disposal facility With proper approvals, it may be possible to ship the waste directly offsite

DOT approved packages will be used to contain project generated waste that has been surveyed and packaged Special packages may be used, under certain circumstances, to contain materials that may not fit into standard plywood boxes The Project Manager will notify the affected waste management organization and obtain guidance if this occurs Non-contaminated recyclable materials, such as scrap metal, may be placed in boxes and later segregated into PU&D supplied bins for ease of removal Additional items may be placed onto pallets for transfer to PU&D

Liquid wastes drained from process lines or sumps may produce hazardous mixed wastes if radioactive contamination is detected Unknown liquid wastes will be sampled Aqueous wastes, if contaminated, will be sent to onsite treatment facilities Although none are expected to remain, any hazardous organic chemicals will be treated as excess chemicals They will be properly packaged, and sent offsite to an approved hazardous waste disposal site

7.0 ONSITE STORAGE, TRANSPORTATION, AND FINAL DISPOSITION

Wastes that will not be shipped directly offsite will be relocated to an appropriate onsite storage as designated by Waste Operations Waste Operations personnel will provide site surveillance support to ensure that hazardous and mixed wastes are being managed in accordance with the conditions established in the current Site RCRA Permit

The RMRS Waste Disposal group and Traffic Management will be involved in developing the requirements for offsite transportation of waste to the selected disposal or treatment site The Project Manager will comply with the Rocky Flats Transportation Safety Manuals to ensure all relevant transportation requirements are met

8.0 WASTE MINIMIZATION

The philosophy of waste minimization will be utilized in the planning and management of project generated wastes Standard decontamination operations and processes will be evaluated for waste minimization potential and suitable minimization techniques will be implemented If the cost is greater to demonstrate that the item is not contaminated than to pay for waste disposal, the item will be disposed of as contaminated waste

Opportunities for waste minimization through scrap metal recycle are dependent on successful decontamination operations confirmed through radiation surveys Equipment will be decontaminated to the greatest extent practical then surveyed in support of waste minimization Contamination survey data may result in partial or full release of a piece of equipment for scrap metal recycle

9.0 COMPLETION REPORT

Upon completion of the project, a Project Completion Report will be prepared This report will include a listing of the wastes removed from the building, characterization data, and waste dispositioning information (e g , size reduction, decontamination, or treatment) which contributed to the final forms and volumes of the wastes resulting from this project

10.0 REFERENCES

Hazardous Waste Requirements Manual

Health and Safety Plan, RFETS, Rev 0, February 1996

RFETS Low-Level Waste Management Plan, 44-RWP/EWQA-0014, Rev 1, 1996

Rocky Flats Transportation Safety Manuals

RMRS Waste Acceptance Criteria, Rev 0, July 1996

Waste Stream and Residue Identification and Characterization, Building 123

Waste Stream and Residue Identification and Characterization for D&D

1-M12-WO-4034, *Radioactive Waste Packaging Requirements*

4-D99-WO-1101, *Solid Radioactive Waste Packaging Inside of the Protected Area*

1-10000-EWQA, *TSCA Management Plan*

1-C80-WO-1102-WRT, *Waste/Residue Traveler Instructions*

1-10000-WP-1024, *Asbestos Waste Management*

1-PRO-573-SWODP, *Sanitary Waste Offsite Disposal*

1-10000-EWQA, Section 1 5, *TSCA Management Plan*

1-E-8-WP-1027-NON-RAD, *Non-Radioactive Waste Packaging*